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Dear HASC Colleague:

As Congress debated the FY24 National Defense Authorization Act, as well as proposals to implement the trilateral AUKUS agreement, questions have been raised about the state of our submarine production, maintenance, and industrial base efforts. I wanted to provide information that my office requested from the Navy and Defense Department that clarifies the state of the industrial base, which will help inform you on this issue. In particular, I feel that it is important to underscore the significant role that Congress has *already* played in injecting needed resources into the submarine industrial base to date.

As you review the following document, I want to highlight a few critical observations:

- The Navy's goal is to achieve a serial production rate of 1 Columbia and 2 Virginias ("1+2"). **Right now, the Navy's projection is that this rate will be achieved in 2028** with continued support from Congress and improved performance in the industrial base.
- The production rate for Virginia-class submarines was nearly at 2.0 prior to the COVID-19 pandemic. Degradation of that rate since can be attributed to a complex set of factors: the COVID-19 pandemic and its impact on the industrial base, the incorporation of the 84ft Virginia Payload Module (VPM) on the heels of increasing the build rate from one a year to two, and the ramp up of Columbia class production (with each boat equivalent to 2.5 Virginia-class SSNs).
- Current performance is at 1.2/1.3 VIRGINIAS per year plus about 0.3 COLUMBIA per year (equivalent to .75 VIRGINIA SSNs per year) for a total production of approximately **1.9-2.0 Virginia SSN "equivalents" worth of output today.**
- Congress has been fully engaged on the challenges facing the SIB, as has the Biden Administration. From FY18 to FY22, Congress invested nearly \$1 billion in developing suppliers, training up workforce, and other critical areas. In FY23, the Biden Administration initiated a 5-year investment in the SIB, totaling \$2.4 billion. The first tranche of \$748 million was approved by Congress in FY23 NDAA and Omnibus; another \$647 million is pending as part of deliberations for FY24. AUKUS, too, will bring direct investment in our industrial base in addition to the proceeds from the sale of the submarines.
- We are seeing results from this investment already. Among other results, this investment has helped support **nearly 200 suppliers in 31 states** that has **increased capacity 10% to 50% at key suppliers**. Since 2018, **3.5 million hours of work** has been moved out of the primary shipyards to ease the pressure on production, with a goal of getting to **6 million hours in FY25/26**. Over **3,200 workers have been trained through vital workforce training pipeline programs** in Virginia, Connecticut, and other regions.

- It is from this baseline that the Defense Department, through CAPE, is nearing completion of a study that will examine new submarine construction and sustainment requirements, as well as examine the AUKUS impact on the SIB. The results of that effort, which is expected to inform additional resources needed in the FY25 budget, will be available later this year.
- Its important to put into context the timeframe in which we would be transferring attack submarines to Australia – it would happen in the 2030s, at a time in which we are projected to be at or above the 1+2 build rate. It is also during that period when we would transition back to the non-VPM “Straight stick” Virginia class design, which would remove the equivalent workload of .15 Virginias, and production of Columbia would be at a steadier, more efficient pace of serial production.
- I would also note that in addition to authorizing the budget request of \$647 million for the SIB in FY24, the HASC-passed NDAA that we crafted together in committee on a strong bipartisan basis also adds an additional \$88 million for the SIB and authorizes up to 13 attack submarines over the next 5-year multi-year contract that, if fully realized, could see the procurement of up to 3 attack submarines a year during that period. The Senate bill, in contrast, authorizes up to 10 and no additional SIB funding over the budget request.
- Finally, with regard to maintenance, since May, the Navy has **increased operational availability of attack submarines from 60% to 67%** - with a goal of achieving and sustain an 80% availability rate in the SSN force. The FY24 budget requested the first \$541 million of a \$2 billion, five-year investment to improve maintenance of attack submarines with a focus on reducing the shortage of parts, stockpiling spares, and available material prior to maintenance to ensure that suppliers deliver critical materials for our **shipyards to have at least 90% of material**. And, as part of the Navy’s ongoing efforts, they are also **assessing the capacity of our private shipyards to reduce pressure** on public shipyard capacity.

I am clear-eyed about the urgent need to address the challenges in our submarines industrial base and the operational force. We have done a lot of work together already to address this pressing problem, and we have more work to do. The biggest takeaway from the Navy’s analysis is that Congress needs to maintain consistent multi-year investment in order to succeed in this enterprise. I hope you find this information helpful in providing a broader view of the path ahead and [I](#) will provide additional information as I receive it. As always, I welcome your feedback, questions, and ideas on this and other Seapower topics.

Thanks, and I hope you have a safe and productive August District Work Period.

Sincerely,



JOE COURTNEY  
Member of Congress

## **Submarine Production, Maintenance and Industrial base Issues**

**Requested by Congressman Joe Courtney**

**Provided by Navy on July 25, 2023**

### **Path to 2.0+**

- The submarine industrial base (SIB) faces an increase in demand across the enterprise as the Navy ramps up production of the COLUMBIA Class while continuing to procure two VIRGINIA Class submarines per year and sustain the existing in-service submarines.
- Due to a number of complex factors, the submarine enterprise is not executing the needed ramp up to support serial production of 1.0 Columbia (equivalent of 2.5 Virginia SSNs) and 2.0 Virginia SSNs (1 + 2) starting in 2026. Earned Value Management data is used to calculate progress based on earned labor hours against planned hours.
- Navy currently estimates that a stable 1+2 rate will be achieved in 2028 if investment continues. Current performance is at 1.2 VIRGINIAs per year (this metric is reported to Congressional stakeholders on a quarterly basis) plus about 0.3 COLUMBIA per year (equivalent to .75 VIRGINIA SSNs per year) for a total production of approximately 1.9-2.0 VIRGINIA SSN “equivalents” worth of output.
- Through the PB23 FYDP SIB investment, as well as Congressional plus-ups in FY18-22, the Navy is taking steps to expand and strengthen the industrial base by investing in critical areas: shipbuilder infrastructure, supply chain capability/capacity, scaling new technologies, addressing workforce trade skill gaps and constraints, and expanding productive capacity via strategic outsourcing.
- The SIB investments will bolster submarine production performance in support of VIRGINIA and COLUMBIA Class.
- Building on the efforts of the previous SIB study (SIB-23), the Navy and Office of the Secretary of Defense (OSD) Cost Assessment and Program Evaluation (CAPE) are conducting a follow-on study to fully examine the current state of the submarine enterprise. The analysis will include new construction and sustainment requirements, as well as examine the AUKUS impact on the SIB. The results of this study will be available in 4<sup>th</sup> quarter FY2023.
- Based on the outcome of the SIB-25 study, the Department will assess the additional needs to strengthen the industrial base in support of serial 1+2 production, SSN sustainment and AUKUS.

### **SSN Maintenance Backlog**

- The Department of the Navy (DON) has developed a 15-year SSN Maintenance Strategy and identified key investments that will increase confidence in execution of planned maintenance in both the public and private sector for FY24 and beyond.

- The DON established several critical efforts in conjunction with the 15 year SSN Maintenance Strategy to drive improvements to SSN maintenance and sustainment through the implementation of a VIRGINIA Class (VACL) Material Strategy as well as additional focused efforts in the areas of Supplier Development, Strategic Outsourcing, Shipyard Infrastructure, and Workforce Development.
  - Supplier Development – The Virginia Class (VACL) Material Strategy contains four critical efforts to help ensure the Navy meets the requirement to have at least 90% of material at the Start of Availability (SA00). These four critical efforts include dedicated material funding; correct phasing of material funding; documented, aligned material requirements; and use of a Bill of Material (BOM) process to ensure adequate range/depth of material.
  - Strategic Outsourcing – The Navy is targeting a comprehensive approach for sustainment that includes outsourcing to private U.S. shipyards, which provides the dual benefit of supporting increased production at the public shipyards while leveraging existing capacity and stabilizing the workload for other industry partners. These efforts are focused on increasing overall depot-level capacity and reducing CNO availability duration.
  - Shipyard Infrastructure – The Navy, GDEB, and HII-NNS have each invested to expand and modernize facilities and shipyard infrastructure to support submarine construction capacity. Concurrently, at the public shipyards, the Shipyard Infrastructure Optimization Program (SIOP), already budgeted is recapitalizing the shipyards.
  - Workforce Development – The Navy is executing a strategy in partnership with the OSD Industrial Base Analysis and Sustainment (IBAS) program, industry, regional trade associations, and state/local governments to address critical Submarine Industrial Base (SIB) workforce challenges in the attraction, recruitment, training and development, and retention of the vital defense industrial base workforce.
  - Naval Sustainment System – Shipyard (NSS-SY) – Efforts are ongoing to improve throughput of work, material availability, and reduce unplanned work with the objective of achieving on-time availability completion and align submarine maintenance to meet class maintenance plan workload and schedule requirements.
- With sustained support of the aforementioned initiatives, it is anticipated the submarine enterprise can achieve an average 80% operational availability (currently at 67%), and be ready to support AUKUS.
- The DON continues to look for opportunities to contract submarine maintenance work with Private Shipyards while minimizing the impact to Public Shipyard work cadence and private shipyard new construction work. A private repair availability after HARTFORD completes is under consideration as part of POM-25 discussions. The ability to maintain a robust public and private shipyard maintenance capability is line with the 15 Year Maintenance Strategy.

## **Quantifying the SIB Investment**

- The Navy is appreciative of the continued Congressional support for the submarine enterprise. Prior to SIB-23, Congress provided funding (~\$1B) which allowed for critical investments in the industrial base and de-risking both the COLUMBIA and VIRGINIA Class programs.
- SIB-23 funding has provided the following benefits to the Navy:
  - Establishment of Additive Manufacturing Center of Excellence (AM COE) in Danville, VA
  - Scale-up of Accelerated Training in Defense Manufacturing (ATDM) increasing numbers of students. 92% of ATDM graduates that accept job offers are now working in submarine/defense industrial base
  - Over 3200 workers trained through the SENEDIA pipeline.
  - Supported non-profit partner launch of an advertising campaign (including buildsubmarines.com) which resulted in a significant increase in traffic to the website and more than 6,000 industrial base workforce prospects submitting a form of interest.
  - Ground breaking for the Multi-Class Submarine Production Facility which will enable NNS to further support the construction and delivery of *Columbia*– and *Virginia*-class submarines.
- From SIB-23 funding, the Navy is seeing positive results with greater benefit in FY25 and out.
- Given the complexity and dynamic nature of the Submarine Industrial Base, we will continue to update Congress.